

# Q&A

## on the Food Standards Agency Guidance on Controlling the risk of cross-contamination from *E.coli* O157 (as at 27 May 2011)

### **Introduction**

The Food Standards Agency has produced the following Q&A to reflect some of the comments and requests for clarification we have received following the issuing of the guidance on Controlling the risk of cross-contamination from *E.coli* O157 in February 2011. This represents the first version of the Q&A and we will continue to review and update the document as we receive further feedback. Any comments on this Q&A or the guidance document should be submitted to the dedicated mailbox

[Controllingecoli@foodstandards.gsi.gov.uk](mailto:Controllingecoli@foodstandards.gsi.gov.uk).

### **General**

Q1. Why has this guidance been developed?

A1. It has been developed in response to the foodborne *E.coli* O157 outbreaks in Scotland in 1996 and Wales in 2005, both of which resulted in the death of some individuals and serious long-term health problems for others. Both outbreaks were attributed to cross-contamination arising from poorly managed food handling practices.

Q2. As the FSA advice is contained in guidance rather than legislation how will Authorised Officers be able to legally enforce, for example, in relation to stopping the dual use of equipment and machinery, such as vacuum packing machines, mincers and slicers, for raw and ready-to-eat foods?

A2. There is a legal requirement on food business operators to manage food safety using Hazard Analysis and Critical Control Point (HACCP) principles, by ensuring that hazards are identified and that valid critical controls are established, implemented and verified. The guidance clarifies:

- The circumstances in which *E. coli* O157 cross-contamination hazards should be considered;
- The strict control measures required to effect adequate control of *E. coli* O157 cross-contamination risks; and
- That a lapse in these controls represents an imminent risk to consumers.

This represents clarification of existing legal standards and the grounds that exist in law to take emergency action to prevent the supply, or continued production, of unsafe food. If alternative methods of control other than those stated in the guidance

are in place they must be supported by robust verification. In the absence of verification the guidance provides an evidenced approach to the control of cross contamination.

In relation to complex equipment, such as vacuum packers, slicers and mincing machines, the Agency considers that the dual use of such equipment for raw and ready-to-eat foods should never be considered safe.

Q3. What type of businesses does the guidance apply to?

A3. The guidance applies to food businesses of all sizes and categories where both raw food and ready-to-eat foods are handled. Raw food in this context would include raw meat and any raw ingredients that are potential sources of *E.coli* O157, such as raw root vegetables, fruit or other vegetables that are likely to have been contaminated by soil.

Q4. I run a small cafe serving homemade cooked food and freshly made ready-to-eat sandwiches. Does all of this guidance apply to my business?

A4. If there are no potential sources of *E. coli* O157, such as raw meat or root vegetables in addition to the ready-to-eat foods described, the guidance does not apply but normal statutory hygiene rules still do. The guidance will apply to all relevant food businesses operations where there is an *E. coli* O157 cross-contamination hazard whether home-based or not. The guidance only applies to those parts of an operation where cross-contamination has to be controlled. This includes protection of ready-to-eat food produced by the business from cross-contamination originating from raw ingredients for domestic consumption.

Q5. I run my food business from my own home, how does this affect me?

A5. You will need to comply with this guidance, which is for food businesses of all sizes, if both raw food and ready-to-eat foods are handled. *Raw food* in this context means raw meat and any raw ingredients that are potential sources of *E. coli* O157. *Ready-to-eat foods* are foods that will not be cooked or reheated before being eaten and include foods such as cooked meats, sandwiches, cheese, salads and desserts.

Q6. Does this guidance apply to the manufacture of speciality cheeses?

A6. The processing of raw milk in the manufacture of ready-to-eat foods, such as specialist cheeses which are sold as ready-to-eat, is beyond the scope of this guidance. Guidance for specialist cheese manufacturers already exists. Other dairy establishments handling raw milk, such as those pasteurising milk, should already have well-established systems to control cross-contamination.

Q7. Does the guidance apply to packaged ready-to-eat foods?

A7. **Ready-to-eat foods that are packaged in such a way that they cannot be contaminated (such as tinned and other hermetically sealed pre-packed foods) should not be regarded as being 'handled' for the purpose of the guidance. However, the guidance will apply to any situation where potentially contaminated packaging could spread that contamination into areas where open ready-to-eat foods are handled.**

Q8. Is there an issue with salad vegetables, apples and other fruit customarily eaten raw being sold unpacked alongside untreated vegetables that are likely to have been contaminated by soil?

A8. **The hazard from *E. coli* O157 should be treated consistently in all contexts. Fruit or vegetables which are sold unpacked and handled directly by consumers should not be considered as ready-to-eat without washing. Any fruit or vegetables which are sold as ready-to-eat should be protected from potential *E. coli* O157 cross-contamination risks at all times. It is vital that food business operators are aware that untreated vegetables, particularly those which are visibly contaminated by soil should be considered as potential sources of *E. coli* O157 and stored and presented in such a way that they do not lead to the contamination of ready-to-eat produce. It is also vital that consumers understand whether the vegetables and fruit they are purchasing are intended to be ready-to-eat or require to be washed, peeled or cooked prior to consumption.**

Q9. What does this guidance mean for the people preparing their own food in their kitchens?

A9. **Keeping the kitchen clean is essential to keep food safe; otherwise bacteria can grow and spread. While there is no compulsion on the general public to follow the guidance, cleaning and avoiding cross-contamination are issues for every home. The guidance contains good practices that can be adapted for home-use to help prevent incidents of food poisoning occurring in the home. The Agency is currently updating its advice to consumers in the light of the new guidance.**

Q10. Why has it taken the Agency so long to produce this guidance given the public inquiry reported its findings in March 2009?

A10. **The project to deliver this guidance is one part of the wider Food Hygiene Delivery Programme. This was established following the Inquiry Report to prioritise, direct and measure progress in an ambitious and comprehensive programme of work to improve food hygiene delivery and enforcement across the UK. The programme covers all foodborne pathogens, and all food groups.**

Q11. The guidance document is quite long and detailed are there any shorter materials

that I can read?

**A11.** Yes. The Agency has produced a four-page Factsheet on this issue <http://www.food.gov.uk/foodindustry/guidancenotes/hygguid/ecoliguide> which includes the key messages. However, we would encourage businesses to read the detailed guidance, if possible, to fully understand the necessary controls and the rationale behind them.

**Q12.** I understand the guidance will be undergoing a process of review and evaluation, does this mean that the approach to controlling cross-contamination set out in the guidance is likely to change?

**A12.** No. The Agency has established a dedicated e-mail address to receive feedback on the guidance ([Controllingecoli@foodstandards.gsi.gov.uk](mailto:Controllingecoli@foodstandards.gsi.gov.uk)) and this will be used to inform further development of this Q&A and also to consider if additional tailored materials are necessary e.g. for particular food business types. However, the FSA does not intend to amend the control measures set out in the published guidance, which underpin the overriding principle of protecting the consumer.

**Q13.** Surely, this cross-contamination guidance is disproportionate to the risk of someone being infected by *E.coli* O157?

**A13.** In terms of proportionality the approach taken in the guidance is intended to reflect the general proposition set out in the consultation that every consumer needs to be protected from the risk of an isolated instance of low level contamination of food by *E.coli* O157 as to the degree of protection required. A summary of the responses to the consultation can be found on the Agency's website at <http://www.food.gov.uk/multimedia/pdfs/consultationresponse/consummreducingriskecolio157.pdf>

*E. coli* O157 is a particularly dangerous type of bacteria which can cause serious, untreatable, illness and even death from very low-levels of contamination of ready-to-eat food.

Professor Pennington concluded at paragraph 17.40 of the Inquiry Report into the 2005 outbreak in South Wales that: "It is small food producers/processors in Britain that have the greatest difficulty in achieving and maintaining the safety standards that are required to prevent the contamination of ready-to-eat products with *E.coli* O157. There should be no relaxation of regulation for them. The opposite should be the case."

**Q14.** Caterers, retailers and some other specific types of food establishment have had support from Safer Food Better Business (SFBB) for several years. Why hasn't the Agency produced a SFBB pack for butchers?

**A14. SFBB was designed specifically for small and medium sized caterers and retailers. It is not considered suitable for butchers where high risk activities take place as they need to set out their control measures, critical limits, monitoring procedures and corrective actions in more detail and need to keep appropriate records. The Agency is developing advice on HACCP in butchers, in order to clarify what appropriate documented food safety management procedures might look like, seeking ways of delivering essential messages to food business operators and food handlers and assessing whether additional activity is required of food authorities in relation to this particular category of food establishment. This advice and associated DVD is nearing completion and will be available in June 2011.**

**Q15. Will SFBB/CookSafe/Safe Catering be updated to reflect this guidance?**

**A15. We do not consider that SFBB/CookSafe/Safe Catering and the guidance on cross-contamination are contradictory, rather that the new guidance sets out the additional controls that businesses handling raw and ready-to-eat foods need to implement. However, we are planning to amend SFBB/CookSafe/Safe Catering to include an appropriate reference to the need for certain businesses to follow the new guidance.**

**Q16. On what date will the FSA launch the promised public consultation on the extension of Remedial Action Notices (RANs) to all food premises?**

**A16. A public consultation was launched on 28 February 2011 and the closing date for responses was 23 May 2011. Responses to the consultation are now being considered.**

### ***Separation***

**Q17. The FSA says that its decisions are based on science. Where is the evidence for banning the dual use of equipment and machinery, such as vacuum packing machines, mincers and slicers, for raw and ready-to-eat foods?**

**A17. As part of the conclusions published in the Public Inquiry report, Professor Pennington found that too much reliance was placed on using chemicals to sanitise surfaces in contact with raw and cooked meats. This was particularly the case in relation to *E.coli* O157 given its virulence, the low infectious dose, and its ability to survive in biofilms on metal surfaces. He considered that the use of biocides was not a control measure applied at a critical control point “that can be used to prevent or eliminate a food safety hazard or reduce it to an acceptable level” (Codex Alimentarius). Professor Pennington concluded that a reliance on biocides to reduce the risk from cross-contamination should have been made unnecessary by the use of separate equipment for raw and cooked meats, particularly in relation to complex equipment such as vac packers.**

**During its examination of the issue, the FSA found no evidence to suggest that Professor Pennington’s conclusion that cross-contamination could not be fully or**

reliably controlled using biocides on shared equipment was incorrect. Such a regime is subject to a number of complicating factors that would make reliable proof of safety unachievable.

Q18. I clean my vacuum packing machine thoroughly after using it for raw foods and I have never given anyone food poisoning. Why can't I continue to use my vacuum packing machine for both raw and ready-to eat foods?

**A18. The Agency has not been presented with any convincing evidence of a safe and manageable system of work which will reliably control *E.coli* O157 cross-contamination in these circumstances and is of the opinion that the dual use of complex equipment for raw and ready-to-eat foods should never be regarded as a safe practice. The absence of a known history of food poisoning from a particular operation cannot be used as an indication of safety. The requirement to implement controls applies in all cases where cross-contamination can occur based on the established evidence about *E. coli* O157 and its capacity to cause serious and even fatal illness.**

Q19. We have read the guidance and would like some clarification on whether bacon is classed as raw meat. We see that sausages are classed as raw meat but we are not certain about bacon. We ask with regard to delicatessens that use the vac packers for bacon and ready to eat foods. Strict cleaning procedures exist between uses but are we now to prohibit the dual use of vac packers for bacon and ready to eat foods?

**A19. Yes. Dual use of vacuum packers for bacon and ready-to-eat (RTE) foods should not be allowed.**

**Bacon is sold as a raw product and although the salting/curing process could have an antimicrobial effect this will not guarantee removal of pathogens and further processing, usually cooking will be required to achieve this. It should therefore be considered as a potential source of cross contamination and handled in the same way as other raw meat.**

Q20. It is clear that vacuum packing machines are regarded as complex equipment - but what about scales? We have a butcher who has a tiny shop, with only one set of scales, which he cleans and disinfects between uses.

**A20.** Paragraph 28 of the guidance describes situations where physical separation is always required. The Agency would see scales as coming under the definition of complex and difficult to fully disinfect. In this respect the disinfection relates to any part of the machine that could become contaminated and not just the platform. The expectation of the guidance is that there should be separate equipment except in the limited set of stated cases (see paragraphs 30 to 32). Ready-to-eat foods should be handled in a controlled clean environment. In a butcher's shop this would usually be a ready-to-eat counter, properly separated from the parts of the establishment that may be contaminated. The size of establishment cannot constrain the extent to which required standards of separation will be implemented.

Food law requires that the layout, design, construction, siting and size of food premises must permit good food hygiene practices, including protection against contamination. In rooms where food is prepared, treated or processed, food law requires that the design and layout are to permit good food hygiene practices, including protection against contamination between and during operations. These legal requirements are set out in Annexe 1 of the guidance and are reflected in Paragraph 29 of the guidance, which states that 'A commercially desired throughput for an establishment should not constitute a physical limitation that prevents separation. In such cases, operations should be scaled-down to a level in the establishment that permits physical separation.' The scaling down of operations could include a lower throughput or a change to the type of handling undertaken (for example retailing only pre-packed ready-to-eat foods).

**Q21.** Is there a requirement for businesses to have separate cash registers, chip and pin machines etc. for handling raw and ready-to-eat foods?

**A21.** The guidance advocates separation, but accepts that there may be examples of where a single cash register may be used with appropriate controls in place. In this case the guidance states that 'A single cash register can be used if appropriate measures are taken to prevent the spread of bacteria. If the cash register is kept in the clean area, care must be taken to ensure it is not contaminated by staff coming from areas outside the clean area. Similarly if the cash register is kept outside the clean area, staff from the clean area must ensure their hands and clothing are clean after using the cash register.'

**Q22.** What constitutes a designated clean area within a retail environment?

**A22.** A designated clean area is an environment within which freedom from *E. coli* O157 contamination is assured through control measures in place. This is a three dimensional space rather than simply a two dimensional floor. It may, for example, include a designated worktop and anything on the worktop but it would not include the floor surface. All surfaces that could come into contact with food, hands, utensils wrapping materials etc. must not be a possible source of contamination because,

during the time of operation, there are no further controls that would prevent a chain of uncontrolled spread of contamination ultimately to ready-to-eat food.

Q23. Is storage and display equipment required to be labelled so that clean areas are readily identifiable as being for ready to eat foods?

A23. The guidance does not require this, it requires adequate separation within such equipment and that food handlers know where it is safe to store ready-to-eat foods and to ensure that raw food is kept adequately separate from these locations at all times.. The arrangements for separation should form part of the food safety management procedures plan and these must be effectively communicated to staff. There may be circumstances where labelling would help with the implementation of the food safety management procedures e.g. *“This refrigerator to be used for cooked meats only”*.

Q24. How can caterers comply with the guidance?

A24. Control of cross-contamination through proper separation is as important in catering as in other sectors but the guidance recognises that the business cannot always designate permanent clean areas for handling ready-to-eat foods. Where it is not possible to establish a permanent area in an establishment for this purpose, an area can be temporarily designated and maintained as clean. In these cases the general environment, such as worktops and walls, must present smooth impervious and easily cleanable surfaces and must be subject to strict cleaning and disinfection procedures, in accordance with the guidance, before they are used for ready-to-eat foods. Separate chopping boards and utensils should be designated for use in clean areas unless cleaned and disinfected by heat in a commercial dishwasher between their use for raw and ready-to-eat foods.

Separation in chilled and frozen storage must be sufficient to ensure that ready-to-eat foods are protected from cross-contamination risks. Where separate units are not provided, the clean storage area for ready-to-eat food should be clearly identifiable. The separation in such cases should be sufficient to ensure that hands and clothing are not contaminated when storing or removing ready-to-eat foods. Where staff are cooking raw food to order in a catering operation, the business should ensure that the raw ingredients are kept in a separate location from the clean plates and the ready-to-eat foods. Separate utensils, from those used for raw foods, should be used to plate cooked foods from the cooking range and these must be clean at all times. One way of maintaining clean hands will be to ensure that raw ingredients are only handled using tongs, forks or other utensils that are kept between uses in such a way that the handles are not exposed to risk of contamination. This would mean that hands would not be contaminated when these utensils are used. Hands should nevertheless still be washed on a regular basis by staff handling food.

Q25. Short order chefs will be cooking off raw meat dishes and serving ready-to-eat plated meals. Does the guidance mean I need two chefs, one for raw handling and one for ready-to-eat?

A25. **Not necessarily. Where staff are cooking raw food to order in a catering operation, the business should ensure that the raw ingredients are kept in a separate location from the clean plates and the ready-to-eat foods. Separate utensils, from those used for raw foods, should be used to plate cooked foods from the cooking range and these must be clean at all times. One way of maintaining clean hands will be to ensure that raw ingredients are only handled using tongs, forks or other utensils that are kept between uses in such a way that the handles are not exposed to risk of contamination. This would mean that hands would not be contaminated when these utensils are used. Hands should nevertheless still be washed on a regular basis by staff handling food.**

### ***Cleaning***

Q26. I clean with an antibacterial sanitiser so why do I need to do two-stage cleaning?

A26. **Sanitisers combine both cleaning and disinfection properties in a single product, usually as a spray. However chemical disinfection can only be reliably achieved on a visibly clean surface and hence the need for a first stage cleaning process to remove visible dirt, food particles and debris before using the sanitiser for disinfection. When used in a single stage process these products are only suitable as an interim 'clean-as-you-go' measure and never as a disinfection control for controlling *E. coli* O157 cross-contamination.**

Q27. Floors may be shared between clean areas and other areas. In such instances is separate cleaning equipment for the floors still required?

A27. **An area of floor may be within a room or designated clean area but the floor itself can never be regarded as clean and any food or surfaces of food equipment that come in contact with any floor must be considered as potentially contaminated. Floor cleaning equipment will need to be separated from any equipment used to clean other surfaces such as worktops in clean areas. However, it is essential that floor cleaning is carried out in such a way that it does not contaminate surfaces in a clean area that will be treated as safe to contact without the risk of spreading *E. coli* O157.**

Q28. Please can you confirm that the BS number quoted in the guidance is correct. The guidance quotes BS EN 1276:1997, but the BS site states that this has been withdrawn and replaced by BS EN 1276:2009.

**A28.** We have sought advice on this matter and have been informed that the differences between the two standards are all procedural rather than technical. This has had the effect of strengthening the test method and harmonised it with other European disinfectant standards, but has not changed the requirements for the disinfectant to pass the test; i.e. for EN 1276 a 5 log reduction of 4 test organisms in 5 min. Disinfectants that passed the test before the change in standard would, therefore, have been seen to have met the same, current, pass criteria.

Therefore, it is our opinion that a sanitizer complying with BS EN 1276:1997 remains suitable for use and compliance with BS EN 1276:2009 will be acceptable in the context of this guidance, if found upon the label of newer products.

**Q29.** Why are there two test procedures for killing E coli O157?

**A29.** Both standards are considered adequate in terms of outcome but the method of assessment in each is different. BS EN 1276 is a suspension test whereas BS EN 13697 is a surface test. BS EN 13697 has a wider scope because it includes fungicidal action, which is not relevant to the control of E. coli O157. Therefore, if products meet BS EN 13697 there is no need for the supplier to also demonstrate compliance with BS EN 1276.

**Q30.** It would be helpful if there was a list of commercial products that actually conform to these BS EN numbers. Is there such a list?

**A30.** It is not considered practical for the Agency to produce, and most importantly, keep up-to-date, a prescribed list of cleaning products. In considering our response to this issue we concluded that formulations could change at any time and the FSA would have no way of knowing. The FSA approach, as outlined in the guidance document provides a practical market solution for suppliers and customers. The required specification is clear to the customer and conformity to that specification is confirmed by the supplier.

**Q31.** What formal action is deemed appropriate if a food premises is found to not be using a British Standard bacterial detergent?

**A31.** Where disinfection is critical to food safety, a food business operator must have a valid procedure for carrying this out. Use of a product complying with one of the BS EN standards set out in the guidance, in accordance with the manufacturer's instructions, can be considered as valid. It is for the food business operator to demonstrate that procedures are valid and authorised officers must consider the use of a Hygiene Emergency Prohibition Notice where disinfection is critical to food safety and a valid procedure has not been demonstrated by the food business operator. Chemical disinfection should not be used as a substitute where the guidance stipulates that

physical separation is required.

Q32. How will I know if my dishwasher meets the requirements of the guidance?

**A32. We would expect a commercial dishwasher operating correctly with an appropriate chemical cleaner to produce a suitably sanitised product. Domestic dishwashers would not normally be expected to achieve the desired outcome. However, if a dishwasher supplier or manufacturer can confirm that any of its products will meet the required outcome standard in a commercial environment, they may be considered suitable.**

Q33. How should I clean my utensils if I do not have a commercial dishwasher?

**A33. Ideally, a separate sink should be used to wash utensils that have been in contact with raw foods from one used to wash utensils in contact with ready-to-eat foods. However, the guidance acknowledges that this is not always possible and paragraph 30(b) provides advice on the process to follow when washing utensils in a single sink. We would suggest that the utensils used for ready-to-eat foods be washed first, followed by anything used for raw foods. The most important control is to ensure that the sink is properly washed and disinfected following contact with any utensils that have been in contact with raw foods. It is also recommended that utensils washed in this way should be air dried to avoid the risk of contamination with cloths that may have been in contact with raw foods.**

### ***Handwashing***

Q34. Does the guidance mean that I must wash my hands if I handle cash at a ready-to-eat counter before serving the next customer?

**A34. The guidance would apply where the cash is likely to be contaminated by sources of E coli associated with raw foods handled in the food operation. This is not likely to be the case where cash is handed over by customers. In such cases, existing advice applies. Tongs and other utensils are used in most ready-to-eat serving areas to avoid any contamination of food from the general environment.**

Q35. The guidance recommends the use of non-hand-operable taps for handwashing. I don't have these, so what should I do?

**A35. The use of non-hand-operable taps when washing hands is recommended, but if not available, taps should be turned off using a single use towel.**

Q36. Why wasn't the use of non-hand operable taps for handwashing made mandatory, like the banning of dual-use of complex equipment and machinery.

**A36. At paragraph 58 on page 30 of the guidance, we recommend as best practice the use of non-hand operable taps for handwashing. During development of the guidance it was considered whether a stronger message would be appropriate but concluded that making the use of non-hand operated taps mandatory was unnecessary because the risk of cross-contamination can be controlled by a safe alternative method i.e. turning taps off with a single use towel. However, we have not seen convincing evidence that would validate alternative procedures in the case of complex equipment and machinery and the evidence from the report of the E. coli O157 outbreak in Wales provides strong evidence that alternative procedures should not be regarded as acceptable. As an example, the Agency considers that the dual use of complex equipment such as vacuum packers can never be considered safe.**